

REMARKS

Claims 1-29, 31-33 and 35-38 are pending in the present application. Replacement claims 2, 11, 24-27, 29, 31 and 33 have been presented herewith. Claims 30 and 34 have been canceled.

Priority Under 35 U.S.C. 119

Enclosed is a copy of a Claim of Priority letter dated November 15, 2000, filed along with the present application as including Swedish Priority Application No. 9903945-5. **The Examiner is respectfully requested to acknowledge the Claim for Priority under 35 U.S.C. 119 and receipt of the certified copy of the priority document.**

Claim Rejections-35 U.S.C. 102(b)

Claims 1-38 have been rejected under 35 U.S.C. 102(b) as being anticipated by the Kuffner et al. reference (U.S. Patent No. 5,486,836). This rejection is respectfully traversed for the following reasons.

The antenna device of claim 1 includes in combination an antenna structure "switchable between a plurality of antenna configuration states, each of said plurality of antenna configuration states being distinguished by a set of radiation parameters", and a switching device "for selectively switching said antenna structure between said plurality of antenna configuration states". As further featured, each of the plurality of an antenna configuration states "is adapted for use of the antenna device in the communication device

in a respective predefined physical operation environment". Applicants respectfully submit that the Kuffner et al. reference as relied upon by the Examiner does not disclose these features.

The antenna device of claim 1 is switchable by means of a switching device between a plurality of antenna configuration states, whereby each antenna configuration state is distinguished by a set of radiation parameters and is adapted for use of the antenna device in a communication device **in a respective predefined physical operation environment.**

In contrast, the Kuffner et al. reference discloses in Fig. 3 for example, switch 306 and patch antennas 302 and 304 having reception diversity. By means of switch 306, mode polarizations 314, 318 and 322, or feed points 312, 316 and 320, may be selected. The Kuffner et al. reference therefore describes classical reception diversity using RSSI (received signal strength indication) to determine, during use, which one of the switched states is best, and then use of that state for reception. The Kuffner et al. reference does not disclose antenna switched states that are adapted for use of the antenna device in a communication device in respective predefined physical operation environments as featured in claim 1, or that such states adapted for use in respective predefined physical operation environments would be achieved by switching of switch 306.

In Fig. 9 of the Kuffner et al. reference, the radio is disclosed having two physically separated patch antennas 904 and 906, respectively mounted in the back of the handset and in a flip portion of the radio base. This arrangement provides a degree of space,

pattern and polarization diversity. A plurality of antenna configuration states or respective predefined physical operation environments are not specifically disclosed with respect to the radio in Fig. 9 of the Kuffner et al. reference. Particularly, the position of the patches are established merely to provide a degree of diversity. Accordingly, Applicants respectfully submit that the antenna device of claim 1 distinguishes over the Kuffner et al. reference as relied upon by the Examiner, and that this rejection of claims 1-23 and 35 is improper for at least these reasons.

Applicants also respectfully submit that the method for transmitting and/or receiving RF radiation of claim 24, distinguishes over the prior art as relied upon by the Examiner for at least somewhat similar reasons as set forth above. Particularly, the method of claim 24 includes in combination adapting each of a plurality of antenna configuration states, whereby each antenna configuration state is distinguished by a set of radiation parameters and whereby each of the plurality of antenna configurations states are for use of the antenna device in the communication device in a respective predefined physical operation environment. The Kuffner et al. reference does not specifically disclose a plurality of antenna configuration states for respective predefined physical operation environments. Applicants therefore respectfully submit that the method for transmitting and/or receiving RF radiation of claim 24 distinguishes over the Kuffner et al. reference as relied upon by the Examiner, and that this rejection of claims 24-28 and 36 is improper for at least these reasons.

The antenna device of claim 29 is switchable between multiple antenna configuration states by way of a switching device, wherein each configuration state is

distinguished by a set of radiation parameters. The antenna device further includes in combination a control device for receiving a physical property of an external operation environment as detected by a resistive, capacitive, inductive, optic, temperature, pressure, inclination, orientation or motion sensor, and for controlling the switch device to switch antenna configuration states responsive to the detected physical property.

In contrast, the Kuffner et al. reference discloses classical reception diversity using RSSI to determine, during use, which of the switch states is best, and then using that switched state for reception. By use of RSSI, any obstacle between the base station and the communication apparatus effects the received signal strength. In contrast, the use of a resistive, capacitive, inductive, optic, temperature, pressure, inclination, orientation, or motion sensor provides a measure of the close environment and its obstacles, such as the user of the communication apparatus. The Kuffner et al. reference does not disclose the use of such sensors, which would solve the problem of measuring signal effecting objects close to the communication apparatus. Accordingly, Applicants respectfully submit that the antenna device of claim 29 distinguishes over the Kuffner et al. reference as relied upon by the Examiner, and that this rejection of claims 29 and 37 is improper for at least these reasons. Applicants also respectfully submit that claims 33 and 38 distinguish over the Kuffner et al. reference as relied upon by the Examiner for at least somewhat similar reasons.

In the antenna device of claim 31, the control device receives a detected physical property of an operation environment and a measure of a second detected physical property of the operation environment, to thereby control the switching device. The Kuffner

et al. reference does not disclose switching based on first and second detected physical properties of an external operation environment of the communication apparatus. The Kuffner et al. reference therefore does not provide improved measuring of close signal-affecting objects and does not provide improved possibilities for switching to optimal configuration states. Applicants therefore respectfully submit that the antenna device of claim 31 distinguishes over the Kuffner et al. reference as relied upon by the Examiner, and that this rejection of claims 31 and 32 is improper for at least these reasons.

Conclusion

Claim 29 has been amended to include the features of dependent claim 30. Also, claim 31 has been amended merely to be in independent form. The above noted amendments thus should not be construed as narrowing scope within the meaning of *Festo*.

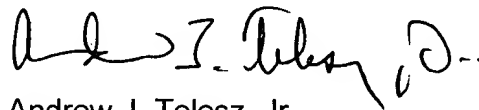
The Examiner is respectfully requested to reconsider and withdraw the corresponding rejections, and to pass the claims of the present application to issue, for at least the above reasons.

In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Andrew J. Telesz, Jr. (Reg. No. 33,581) at (703) 715-0870 in the Washington, D.C. area, to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

VOLENTINE FRANCOS, P.L.L.C.



Andrew J. Telesz, Jr.
Registration No. 33,581

AJT:cej

VOLENTINE FRANCOS, P.L.L.C.
12200 Sunrise Valley Drive, Suite 150
Reston, Virginia 20191
Telephone No.: (703) 715-0870
Facsimile No.: (703) 715-0877

Enclosures: Version with marked-up changes
Copy of Claim of Priority dated November 15, 2000

VERSION WITH MARKED-UP CHANGES

Additions/Deletions to the Claims:

2. (Amended) The antenna device as claimed in claim 1, wherein each predefined physical operation environment is defined by objects affecting [the] electromagnetic radiation and located within a distance from said communication device of less than ten wavelengths of the electromagnetic radiation.

11. (Amended) The antenna device as claimed in claim 1, wherein [the] a control device receives a measure of a detected physical property of an operation environment, said operation environment being external to said antenna device and to the communication device having the antenna device installed therein, and controls said switching device, and hence the selective switching of said antenna structure between said plurality of antenna configuration states, in accordance with said measure.

24. (Amended) A method for transmitting and/or receiving RF radiation in an antenna device including a switchable antenna structure installable in and connectable to a communication device, the method comprising:

- adapting each of a plurality of antenna configuration states, each antenna configuration state being distinguished by a set of radiation parameters, in the

switchable antenna structure for use of the antenna device in the communication device in a respective predefined physical operation environment; and

- selectively switching the switchable antenna structure between said plurality of antenna configuration states.

25. (Amended) The method as claimed in claim 24, wherein each of said predefined physical operation [environment is] environments are defined by objects affecting RF radiation and located within a distance from the communication device of less than ten wavelengths of RF waves.

26. (Amended) The method as claimed in claim 24, wherein said selectively switching is performed from one to another of said plurality of antenna configuration states, said one and another antenna configuration states being adapted for use of the antenna device in said [radio] communication device in any two of the following said predefined physical operation environments: a talk position, a free space environment, a waist position, and a pocket position.

27. (Amended) The method as claimed in claim 24, further comprising controlling said selectively switching with a received measure indicating a change from a first to a second of said predefined physical operation environments [is received] and said switching device to switch said antenna structure from a first to a second of said

plurality of antenna configuration states, in accordance with [said] the received measure.

29. (Amended) An antenna device for transmitting and receiving radio frequency waves, installable in a radio communication device, and comprising[:]:

- an antenna structure switchable between a plurality of antenna configuration states, each antenna configuration state being distinguished by a set of radiation parameters;

- a switching device which selectively switches said antenna structure between said plurality of antenna configuration states; and

- a control device which receives a detected physical property of an operation environment, said operation environment being external to the antenna device and to the radio communication device having the antenna device installed therein, and which controls said switching device, and the selective switching of said antenna structure between said plurality of antenna configuration states, in accordance with said detected physical property,

wherein a measure of the detected physical property of the operation environment is received from at least one of a sensor, particularly a resistive, capacitive, inductive, optic, temperature, pressure, inclination, orientation, or motion sensor.

31. (Amended) [The] An antenna device [as claimed in claim 29] for transmitting and receiving radio frequency waves, installable in a radio communication device, and comprising:

- an antenna structure switchable between a plurality of antenna configuration states, each antenna configuration state being distinguished by a set of radiation parameters;

- a switching device which selectively switches said antenna structure between said plurality of antenna configuration states; and

- a control device which receives a detected physical property of an operation environment, said operation environment being external to the antenna device and to the radio communication device having the antenna device installed therein, and which controls said switching device, and the selective switching of said antenna structure between said plurality of antenna configuration states, in accordance with said detected physical property,

wherein the control device receives a measure of a second detected physical property of the operation environment, and controls said switching device, and hence the selective switching of said antenna structure between said plurality of antenna configuration states, in dependence on said second measure.

33. (Amended) In an antenna device installable in a communication device, and comprising

- an antenna structure switchable between a plurality of antenna configuration states, each of which is distinguished by a set of radiation parameters; and

- a switching device which selectively switches said antenna structure between said plurality of antenna configuration states,

a method for transmitting and receiving radio frequency waves comprising [the steps of]:

- receiving a detected physical property of an operation environment, the operation environment being external to the antenna device and to the communication device having the antenna device installed therein; and

- controlling said switching device, and the selective switching of the antenna structure between the plurality of antenna configuration states, in dependence on the detected physical property,

wherein a measure of the detected physical property of the operation environment is received from a sensor, the sensor being one of a resistive, capacitive, inductive, optic, temperature, pressure, inclination, orientation or motion sensor.

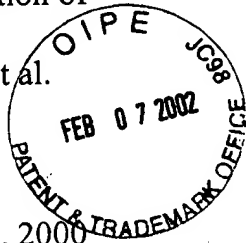
IN THE UNITED STATES PATENT & TRADEMARK OFFICE

In re Patent Application of

Christian BRAUN et al.

Serial No. (NEW)

Filed: November 15, 2000



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CLAIM OF PRIORITY

Honorable Assistant Commissioner for Patents and Trademarks,
Washington, D.C. 20231

Sir:

Applicants in the above-identified application, hereby claim the priority date under
the International Convention of the following Swedish application:

Appln. No. 9903945-5

filed: October 29, 2000

as acknowledged in the Declaration of the subject application.

A certified copy of said application is being submitted herewith.

Respectfully submitted,

JONES VOLENTINE, L.L.C.

By: *Susan S. Morse*

Susan S. Morse

Registration No. 35,292

SSM:tljw

JONES VOLENTINE, L.L.C.
12200 Sunrise Valley Drive, Suite 150
Reston, Virginia 20191
Tel. (703) 715-0870

Dated: November 15, 2000

PRV

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Intyg Certificate



Härmed intygas att bifogade kopior överensstämmer med de handlingar som ursprungligen ingivits till Patent- och registreringsverket i nedannämnda ansökan.

This is to certify that the annexed is a true copy of the documents as originally filed with the Patent- and Registration Office in connection with the following patent application.

(71) Sökande Allgon AB, Åkersberga SE
Applicant (s)

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För Patent- och registreringsverket
For the Patent- and Registration Office


Therese Friberger

Avgift
Fee 170:-